

Chapter 23 "Article VII. Cross-Connection Control"

23-170. Definitions

(a) For purposes of this article, the following words shall have the meaning as set out below. As to terms not defined below, the definitions established by the North Carolina Building Code shall apply.

(b)(1) Accepted Standards for Backflow Devices

All backflow prevention devices shall meet or exceed the testing requirements of A.S.S.E. (American Society of Sanitary Engineering) and shall be stamped with the appropriate approval number.

(2) Approved

The word "approved" shall mean authorized or accepted as satisfactory to the cross-connection control inspector.

(3) Backflow Prevention Device

The term "backflow prevention device" shall mean any effective device or method used to prevent backflow or backsiphonage into the potable water system. The type of device required shall be based on degree of hazard, existing or potential.

(4) Certified Tester

The term "certified tester" shall mean a person who has proven his competency to test, repair, overhaul and make reports on Backflow Prevention Devices as evidenced by certification or successful completion of a training program approved by the Director of Water Resources.

(5) Cross-Connection Control Inspector

The Cross-Connection Control Inspector is the official position established and authorized by the City to administer and enforce the provisions of the Cross-Connection Control regulations. The Cross-Connection Control Inspector shall be certified as a backflow device technician by a recognized research center and as a North Carolina Plumbing Inspector Level III.

(6) Double Check Valve Assembly

The term "double check valve assembly" shall mean an assembly composed of two single, independently acting, approved check valves, including tightly closing shut-off valves located at each end of the assembly, and having suitable connections for testing the watertightness of each check valve.

(7) Fire Line

The term "fire line" shall mean a system of pipes and equipment used exclusively to supply water in an emergency for extinguishing fire.

(8) Reduced Pressure Principle Backflow Prevention Device

The term "reduced pressure principle backflow prevention device" shall mean a device containing within its structure a minimum of two independently acting, approved check valves, together with an automatically operating pressure differential relief valve located between the two check valves. The first check valve reduces the supply pressure a predetermined amount so that during normal flow and at cessation of normal flow the pressure between the checks shall be less than the supply pressure. In case of leakage of either check valve, the differential relief valve, by discharging to atmosphere, shall operate to maintain the pressure between the checks less than the supply pressure.

23-171. Position Established - Cross-Connection Control

The position of Cross-Connection Control Inspector is hereby established. The Cross-Connection Control Inspector shall be appointed by the City Manager and shall interpret and enforce the provisions of this article.

23-172. Right of Entry

As a condition of water service, the Cross-Connection Control inspector shall have the right to enter any building or premises served by the City of Durham water system for the purpose of performing the duties established by this article.

23-173. Interference Prohibited

No person shall interfere with the Cross-Connection Control Inspector in the performance of the duties and responsibilities established by this article.

23-174. Authorized Plumbers

Any device required to be installed by the provisions of this article or by a corrective order issued by the Cross-Connection Control Inspector or any device installed to prevent or correct atmospheric or pressure backsiphonage shall be installed by a licensed North Carolina plumbing contractor.

23-175. Permit Required

No person shall install, remove, or maintain, or cause the installation, removal, or maintenance of a cross-connection or backflow prevention device without the prior issuance of a permit by the Cross-Connection Control Inspector. Conditions, activities, or installations requiring a permit from the Cross-Connection Control Inspector include, but are not limited to:

- (i) pit installation;

- (ii) temporary connections to the potable water system;
- (iii) cooling jackets, condensers, heat exchanges or other industrial or special appliances for which a minimum air gap or backflow prevention device is not possible;
- (iv) double check valve assembly;
- (v) reduced pressure principle backflow device;
- (vi) pressure type vacuum device; (or)
- (vii) ball-cock in which the critical level of the vacuum breaker is less than 10 inches from the bottom of the flush tank or is adjustable to less than 10 inches.

23-176. Annual Testing Required

The owner, permit holder, or agent, of an owner or permit holder shall test or cause to be tested each double check valve assembly, reduced pressure principal backflow prevention device, and pressure type vacuum breaker under his control at least annually. The test shall be conducted by a certified tester. The certified tester shall report the results of the test to the Cross-Connection Control Inspector.

23-177. Testing, Inspection Required

Any person who installs, removes, or corrects any cross-connection device or condition shall test the altered system for proper operation and shall certify the results to the Cross-Connection Control Inspector. The test shall be conducted by a certified tester.

Any person who installs, removes, or corrects any cross-connection device or condition shall notify the Cross-Connection Control Inspector for the purpose of securing an inspection or reinspection by the Cross-Connection Control Inspector.

23-178. Non-Residential Construction Outside the City and Extraterritorial Area

The owner, contractor, or agent of the owner or contractor of any nonresidential structure served or to be served by the City of Durham water system and not subject to the authority of the City Plumbing Code shall submit plumbing plans to and secure the approval of the Cross-Connection Control Inspector prior to the connection of the water system to the city water main.

23-179. Intrasystem Protection

No owner, occupant, or other person in control of any structure served by the City water system shall cause or allow any contamination of the potable water provided by the City water system and made available for the use or consumption of employees, customers, or other consumers on the premises.

23-180. Fireline

Every fireline system shall be protected against possible backflow by a minimum of an approved Double Check Valve with test cocks upstream of the alarm valve or dry pipe valve.

The footage of any fire line system containing antifreeze solutions or inhibitors shall be additionally protected against possible cross-connect by a reduced pressure principle backflow device.

Any fire system with booster or transfer pumps or storage tanks shall be protected against possible backflow by a reduced pressure principle device upstream of the alarm valve or dry pipe valve or some alternate equivalent device approved by the Cross-Connection Control Inspector.

23-181. Flushing Tanks

Each flushing tank shall be equipped with an approved ball-cock. The ball-cock shall be installed with the critical level of the vacuum breaker at least one inch above the full opening of the overflow pipe. If the ball-cock has no hush tube, the bottom of the water supply inlet shall be installed one inch above the full opening of the overflow pipe. In cases where the ball-cock has no hush tube, the bottom of the water supply inlet shall be installed one inch above the full opening of the overflow pipe. Any ball-cock in which the critical level of the vacuum breaker is less than 10 inches from the bottom of the flush tank or adjustable to less than 10 inches must be approved before installation.

23-182. Carbonation Equipment

Any carbonation equipment directly or indirectly connected to any outlet or conduit of the City water system shall be protected against possible backflow by an approved double check valve assembly with an atmospheric vent.

23-183. Tank Trucks

Any tank truck directly or indirectly connected to any outlet or conduit of the City water system shall be equipped with an approved, permanently installed air gap designed to create a minimum distance of 4 inches between the City water supply and the receiving tank.

23-184. Private Wells

No person shall make, cause, or allow a physical connection or a cross-connection between the City water system and any private well, spring, or other water source not approved by the State of North Carolina as a public water supply.

23-185. Device Protection

Any back flow protection system in which there are apparent pressure surges or abnormally high pressure shall be protected against possible damage by a device

approved by the Cross-Connection Control Inspector, such as hammer arresters or pressure reducing valve.

23-186. Bypass Loops

No person shall undertake, cause, or allow a required or permitted backflow prevention device to be bypassed or looped around.

23-187. Additional Protection Required

In addition to the backflow prevention devices and measures required by other sections of this ordinance, the following classes of uses and structures shall install and maintain a backflow prevention device approved by the Cross-Connection Control Inspector and placed at the point of the water service connection to the structure:

- (i) Buildings with complex plumbing systems;
- (ii) Buildings within which hazardous material or waste is handled in a manner which presents the foreseeable and reasonable possibility of a cross-connection of hazardous material or waste to the City water system, including research and chemical industry facilities;
- (iii) Buildings of five or more stories above ground level;
- (iv) Hospitals and similar medical facilities;
- (v) Morgues, mortuaries, and autopsy facilities;
- (vi) Wastewater plants;
- (vii) Metal plating facilities;
- (viii) Sites at which two or more operational violations have occurred within any one twelve-month period; and
- (ix) Buildings otherwise closed to inspection.

23-188. Discontinuance of Service

(a) Procedure

The City may discontinue water service to any structure(s) or parcel(s) when the Director of Water Resources, upon the recommendation of the Cross-Connection Control Inspector gives written notice of a violation of this ordinance to the customer as shown on the revenue billing roll or to the owner, occupant, or other person in apparent control of the system; if the cited violation is not corrected within the reasonable period of time provided in the notice of violation; and the Cross-

Connection Control Inspector finds that the violation constitutes an unreasonable risk to the potable water system.

(b) Service Restoration

When service is discontinued pursuant to the provisions of this section, service shall not be reinstituted unless and until the Cross-Connection Control Inspector finds that the risk to the City water system has been alleviated.

(c) No Liability

The City shall bear no liability for direct or consequential damages proximately caused by the discontinuance of service pursuant to this section.

23-189. Order to Remove

(a) Order to Remove

The Cross-Connection Control Inspector shall have the authority to order the owner, person in control of the system, or the agent of the owner or person in control to remove any existing or potential cross-connection or backflow connection that presents an unreasonable risk of contamination to the City water system.

The order to remove issued by the Cross-Connection Control Inspector shall classify the hazard posed by the cited device or condition as "Class A-Severe" or "Class B-Moderate".

(b) Severe Hazard

A Class A-Severe hazard is one that presents an imminent danger to the public health or drinking water supply and the reasonable and foreseeable consequence of which is death or serious illness. The Cross-Connection Control Inspector shall order that a Class A-Severe condition be corrected within a time certain and as expeditiously as possible. The Cross-Connection Control Inspector shall also order test intervals appropriate to insure continued compliance after correction.

(c) Moderate Hazard

A Class B-Moderate hazard is one that presents the foreseeable and significant potential for pollution, nuisance, or aesthetically objectionable or other undesirable alteration of the drinking water supply. The Cross-Connection Control Inspector shall order that a Class B-Moderate hazard be corrected within a time certain not to exceed 60 days. The Cross-Connection Control Inspector shall also order test intervals appropriate to insure continued compliance after correction.

23-190. Violation of Ordinance

(a) Violation, Misdemeanor

Any person who violates any provision of this article, or who shall violate or fail to comply with any order made hereunder, or who shall install or alter a plumbing system in violation of any detailed statement of specifications or plans submitted and approved hereunder, or any certificate or permit issued hereunder, or who shall fail to comply with such an order within the time fixed therein shall be guilty of a misdemeanor for each such violation or noncompliance and shall be subject to enforcement as provided in this section. The imposition of one penalty for any violation shall not excuse the violation or permit it to continue; and all such persons shall be required to correct or remedy such violations or defects within a reasonable time.

(b) Correction Required

The application of other penalties shall not be held to prevent the enforced removal of any prohibited condition.

(c) Equitable Relief

The provisions of this article may be enforced by an appropriate equitable remedy, including a mandatory or prohibitory injunction, issuing from a court of competent jurisdiction.

(d) Continuous Violations

Each day of a continuous violation of any provision of this division may be charged as a separate and distinct offense or violation.

(e) Civil Penalty

(1) Violation of any provision of this article may subject the offender to a civil penalty to be recovered by the City in a civil action in the nature of debt if the offender does not pay the penalty within thirty (30) days after the assessment has become final by exhaustion of the appeal process established by this section, or by failure to appeal the assessment.

The civil penalty for violation of any provision of this Cross-Connection Control Article shall not exceed \$250 per day for each day of continuous violation, or a cumulative or single civil penalty of \$5,000. The civil penalty for willful violation of any provision of this article shall not exceed \$500 per day for each day of a continuous violation or a cumulative or single civil penalty of \$10,000.

(2) Any civil penalty shall be assessed by the City Manager, upon the recommendation of the Director of Water Resources, and shall be based upon the reasonable estimated cost of correcting the cited violation, the magnitude of the potential risk posed to the public health, safety and welfare by the violation, and

the cost of the public safety or other emergency response caused by the violation. The City Manager shall serve written notice of the civil penalty assessment on the offender and set out with reasonable care the basis of the amount so assessed.

- (3) Any offender so assessed shall have a right of appeal to the City Council, upon serving written notice of appeal on the City Manager within ten (10) days after he receives notice of the assessment.

(f) Enforcement Alternatives

Violation of any provision of this article may be enforced by one, all, or a combination of the remedies authorized by this section.

(g) Enforcement Option

The penalties and enforcement provisions established by this article may be applied in addition to or in lieu of the penalties established by other sections of this chapter."

Section 2. Durham City Code Sections 23-26 and 23-167 through 169 are reserved for future codification.

Section 3. This ordinance shall be in full force and effect from and after passage, except that a "certified tester" shall not be required to perform tests or other specified work until six months after passage, from and after May 20, 1985.

Section 4. All ordinances or parts of ordinances in conflict with this ordinance are hereby repealed.